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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/413,694	10/07/1999	TAE-SAN PARK	8836-115(IB8	2313

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EXAMINER

TIEU, BINH KIEN

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 05/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/413,694

Applicant(s)

PARK, TAE-SAN

Examiner

BINH K. TIEU

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. In response to the Applicant's argued in his remarks, section I, page 2 of the "Response To Office Action" received on 03/26/2004, wherein the Applicant stated that Park (U.S. Pat. #: 6,181,794) is not qualified as prior art under Section 102(b). The Examiner has noticed that the mistake was made from "Cut and Paste" of claims from previous Office Action (dated 8/26/03) into the last Office Action without correcting 102(b) with 102(e). Therefore, the Applicant correctly stated and the Examiner apologies for that mistake.

2. Applicant's arguments, filed 03/26/2004, with respect to the rejection(s) of claim(s) 1-5 and 7-11 under previous cited prior art have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made as followings.

Allowable Subject Matter

3. The indicated allowability of claims 6 and 12-13 is withdrawn in view of the newly discovered reference(s) to Haneda et al. (U.S. Pat. #: 5,539,731) in view of Haneda et al. (U.S. Pat. #: 5,721,772). Rejections based on the newly cited reference(s) follow.

Information Disclosure Statement

4. The listing of references (i.e., U.S. Patent No. 5,428,005) in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5 and 7-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Haneda et al. (U.S. Pat. #: 5,539,731).

Regarding claim 1, Haneda et al. ("Haneda") teaches an echo canceller, as shown in figure 13, comprising:

at least one adaptive filter (i.e., state decision part 24A) for extracting at least one echo signal from speech signals and for calculating at least one power value of the speech signals (col.15, line 60 – col.16, line 55); and

at least one subtraction means for generating at least one error signal by subtracting the at least one echo signal from the speech signals (col.15, lines 60-65; col.17, lines 51-62).

at least one update control means for selectively updating at least one filter coefficient of the at least one adaptive filter in response to the at least one power value and the at least one error signal (col.18, line 38 – col.19, line 4).

Regarding claims 2-5, note col.16, line 28 – col.17, line 10 and col.20, lines 41-58.

Regarding claim 7, Haneda teaches an apparatus such as an echo canceller for removing echo components from speech signals in a vocoder as shown in figure 13, the apparatus comprising:

at least one adaptive filter (i.e., state decision part 24A) for extracting at least one echo signal from speech signals and for calculating at least one power value of the speech signals (col.15, line 60 – col.16, line 55);

a selection means for generating at least one selective signal in response to the at least one power value of the speech signal (col.16, lines 24-30);

at least one subtraction means for generating at least one error signal by subtracting the at least one echo signal from the speech signals (col.15, lines 60-65; col.17, lines 51-62).

at least one update control means for updating at least one filter coefficient of the at least one adaptive filter when the at least one selective signal provided from the selective means is activated (col.18, line 38 – col.19, line 4).

Regarding claims 8-11, note col.16, line 28 – col.17, line 10 and col.20, lines 41-58.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haneda et al. (U.S. Pat. #: 5,539,731) in view of Haneda et al. (U.S. Pat. #: 5,721,772 cited in the previous Office Action).

Regarding claims 6 and 12, Haneda '731 teaches the echo canceller for removing echo components from speech signals in a vocoder as shown in figure 13, the apparatus comprising:

at least one adaptive filter (i.e., state decision part 24A) for extracting at least one echo signal from speech signals and for calculating at least one power value of the speech signals (col.15, line 60 – col.16, line 55);

a selection means for generating at least one selective signal in response to the at least one power value of the speech signal (col.16, lines 24-30);

at least one subtraction means for generating at least one error signal by subtracting the at least one echo signal from the speech signals (col.15, lines 60-65; col.17, lines 51-62).

at least one update control means for updating at least one filter coefficient of the at least one adaptive filter when the at least one selective signal provided from the selective means is activated (col.18, line 38 – col.19, line 4).

It should be noticed that Haneda '731 teaches the combined use of the fast projection algorithm and the Front ground and Background (FG/BG) filtering scheme for both FG and BG sites. Haneda '731 fails to clearly teach a plurality of adaptive filters connected each other in cascade. However, Haneda '772 teaches such features in figure 5, col.7, and lines 43-52 for providing speech signals in subbands.

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of the teachings of a plurality of adaptive filters connected each other in cascade, as taught by Haneda '772, into view of Haneda '731, in order to improve the echo cancellation system for accurately removing echoes from speech signals.

Regarding claim 13, Haneda '731 further teaches limitations of the claim in col.18, line 60 – col.19, line 4.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh K. Tieu whose telephone number is (703) 305-3963 and E-mail address: BINH.TIEU@USPTO.GOV.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz, can be reached on (703) 305-4708 and **IF PAPER HAS BEEN MISSED FROM THIS OFFICIAL ACTION PACKAGE, PLEASE CALL Customer Service at (703) 306-0377 FOR THE SUBSTITUTIONS OR COPIES.**

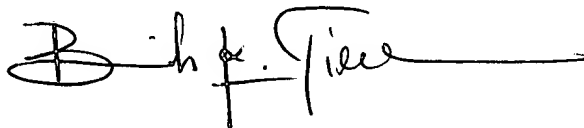
Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Sixth Floor (Receptionist, tel. No. 703-305-4700).

A handwritten signature in black ink, appearing to read 'Binh K. Tieu', with a long horizontal flourish extending to the right.

**BINH TIEU
PRIMARY EXAMINER**

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Date: April 29, 2004